

storing the received information in a database, in a common format,

receiving, from a user at a first supply chain site of the plurality of supply chain sites, a request for information, and in response to the request,

formatting requested information into one of a plurality of views, the information provided being dependent on access rights granted to the user's supply chain site,

performing an analysis of the supply chain based on the information received from the plural supply chain sites, and asserting alarm conditions resulting from the analysis, and

forwarding the formatted view to the user.

REMARKS

Claims 1-43 are pending in the Application. All claims have been rejected under 35 U.S.C. 103(a) as unpatentable over Huang (U.S. Patent No. 5,953,707) in view of Muraoka (U.S. Patent No. 6,317,725).

Applicant's claimed invention

The claimed invention is a system and method for monitoring a manufacturing supply chain comprising multiple *independent* sites including, for example, vendors, original equipment manufacturers (OEM), contract manufacturers and distributors. The supply chain is monitored by *extracting supply-related data* from those independent sites. See, for example, the Specification as filed, page 9, line 4. One or more of the independent sites may be data collection sites that collect data from the other sites. The extraction of data enables real-time (on a appropriate time scale) monitoring of the supply chain.

Fig. 1A illustrates how, prior to the introduction of Applicant's invention, every supply chain site communicates with each of the other supply chain sites as necessary, leaving open a

potential data format nightmare in which every supply chain site needs to know what data is available from each of the other supply chain sites, and how to access and interpret that data.

One solution to this complex scenario is to update or replace every supply chain site's legacy database system with a common database structure. But this solution itself may be enormously difficult to implement. See the Specification as filed, page 8, line 26 to page 9, line 7. Furthermore, such a solution may not be practical - each supply chain site is typically an independent entity, and may have little incentive to replace its current (legacy) database with another database architecture.

Instead, with the claimed invention, legacy systems are left intact at their respective supply chain sites, and remain in use. A supply chain site need not change the way it does business.

Fig. 1B illustrates how, with the present invention, all of the sites communicate with a central collection site, such as a distributor.

A data transfer engine ("DTE") is installed at each supply chain site from which data is to be extracted. In one embodiment, each DTE monitors its site, taking whatever information is available (no matter how incomplete) and formatting (i.e., translating) the data into a common format. This translated data is then sent to the data collection site. (Alternatively, the data may be collected first and then translated at the data collection site.) While some customization of each DTE may be required to properly extract and translate the desired information, no changes to each site's individual existing business processes or procedures are required - no system overhauls are required. Some or all of the collected data may be viewed by users at participating supply chain sites, subject to access rights.

In at least one embodiment of Applicant's invention, the collected data is analyzed to determine whether a problem condition exists. When a problem condition is found, a corresponding alert is asserted to notify users of the problem.

Claim 1 has been amended to emphasize that a supply chain comprises plural *independent* supply chain sites and that data is extracted from the supply chain sites, and to clarify that a request for information originates with a user associated with a supply chain site. No new matter has been added.

Huang

Huang teaches a supply chain “Decision Support System” (DSS) that provides decision support for decision makers to manage an *integrated* (i.e., intra-enterprise) agile supply chain. Huang, column 98, lines 37-39. That is, Huang’s DSS collects data from various supply chain information systems, for example, inventory control, manufacturing control and marketing (Huang, col. 1, lines 30-49), *within* an intra-enterprise system. Although Figs. 1, 2, 8 and 46, cited by the Examiner, show different aspects of, or functions within, an *intra*-enterprise supply chain, nothing in Huang teaches or suggests monitoring of *independent* supply chain sites within a supply chain, as recited in Applicant’s claim 1 as amended.

Furthermore, Huang analyzes data that is considered to be relatively static. Huang, column 6, lines 61-63. Fig. 5, cited by the Examiner, illustrates structural elements in Huang’s DSS database for a manufacturing supply chain. Huang, column 3, lines 1-2. Neither Fig. 5, nor the accompanying description at Huang, column 7, lines 9-31, teaches or suggests *extracting* data from the supply chain, as recited in Applicant’s claim 1 as amended.

Finally, Huang deals only with *demand*-related data, e.g., customer requirements (Huang, column 12, lines 52-54). Again, Fig. 5, cited by the Examiner, illustrates only structural elements in Huang’s DSS database. The accompanying description offers that “Key components are supplied by component suppliers tied to specific component supply nodes,” Huang, column 7, lines 18-20 (reference numbers omitted), but nowhere does Huang teach or suggest extracting *supply*-related data from the supply chain to populate these structural data elements. Indeed, Huang suggests that the elements are relatively static. Huang, column 6, lines 61-63, implying that such information may be entered once and need not be monitored.

Huang provides a common *user interface* (as opposed to translation of data to a common storage format) to provide access to legacy data. Huang, column 99, lines 24-37.

Muraoka

Muraoka is directed to a production management system and method, with optimization to schedule for individual stages throughout planning and actual production. Muraoka appears to have little, if anything, to do with monitoring a supply chain, and in fact the Examiner does not appear to cite any passages from Muraoka that pertain to Applicant’s independent claims.

Claim Rejections - 35 U.S.C. §103

Claims 1-43 have been rejected under 35 U.S.C. 103(a) as unpatentable over Huang in view of Muraoka. Applicant respectfully disagrees with these rejections. As discussed above, neither Huang nor Muraoka teach or suggest key aspects of Applicant's claimed invention.

That is, neither Huang nor Muraoka, separately or in combination, teaches or suggests extracting supply-related data at independent supply chain sites, as recited in Applicant's claim 1 as amended.

In addition, neither Huang nor Muraoka teach or suggest, nor has the Examiner cited any passage teaching or suggesting, translating extracted data into a common format, as recited in claim 1 as amended.

Applicant thus respectfully requests the reconsideration and withdrawal of the rejection of claim 1 as amended herein, in favor of allowance. Allowance of dependent claims 2-22 should follow.

Independent claims 23, 38 and 41-43 have been amended to recite similar features and should therefore be allowable over Huang and Muraoka. Allowance is respectfully requested. Allowance of dependent claims 24-37 and 39-40 should follow.

Claim 11: Legacy Databases

The Examiner asserts that Huang teaches legacy databases, citing in Huang reference number 136 in each of Figs. 13, 14 and 16.

According to Huang's brief description of the drawings, Figs. 13, 14 and 16 illustrate, respectively, Process Flow of Order Fulfillment; Data Flow for the Demand Management Frame; and Process Flow of the Production-Sales-Inventory Planning Frame.

In each of these figures, reference 136 is labeled "Demand History Data" and refers to a database which stores demand history, *e.g.*, a log of customer demands or orders. Such information may "be analyzed to characterize the demand for the manufacturer's products." See Huang, column 41, lines 19-26.

However, in the present invention, a "legacy database" at a supply chain site refers to the database system used by that supply chain site prior to any installation or implementation of the present invention at that supply chain site. Specification, page 4, lines 16-18. That is, the

database system itself (along with its structure) is the legacy. Huang's "legacy database" is a database that contains legacy information. Huang does not suggest that the demand history data database systems 136 of Figs. 13, 14 and 16 exist before the installation of Huang's teachings. Rather, they are a part of Huang's system, and hence, are not legacy database systems.

Applicant's claim 11 has been amended to emphasize that data is stored in a supply chain site's legacy database system. The invention as recited in amended Claim 11 is not taught or suggested by either Huang or Muraoka, and should therefore be allowable in its own right. Applicants thus respectfully request the reconsideration and withdrawal of the rejection of claim 11 as originally filed in favor of allowance, regardless of the final disposition of claim 1.

New claims

New claims have been added which focus on the supply chain site (claims 44-55), the data collection center (claims 56-58) and a complete system (claim 59). No new matter has been added. Each of the new independent claims recites the critical features discussed above and should therefore be allowable. Allowance of new claims 44-59 is therefore respectfully requested.

Information Disclosure Statement

A Supplemental Information Disclosure Statement (IDS) is being filed concurrently herewith. Entry of the Supplemental IDS is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

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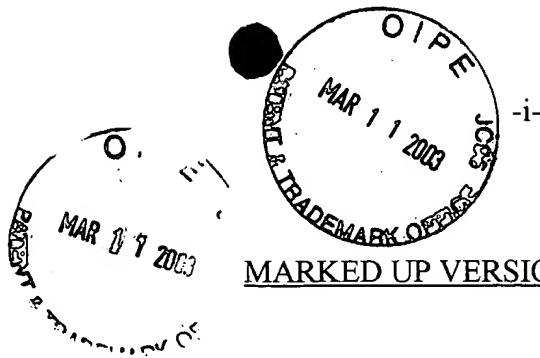
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MARKED UP VERSION OF AMENDMENTS

Specification Amendments Under 37 C.F.R. § 1.121(b)(1)(iii)

Replace the paragraph at page 1, lines 3 through 6 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

This application claims priority to U.S. Provisional Application No. 60/147,670 filed on August 6, 1999, and is related to application Serial No. [] 09/544,916, filed April 7, 2000, entitled METHOD AND SYSTEM FOR MONITORING A SUPPLY-CHAIN, by Brian M. Perry; the entire teachings of which are incorporated herein by reference.

Replace the paragraph at page 11, lines 1 through 8 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

Fig. 2 shows a login or “splash” window 50 as might [appears] appear on a site’s computer monitor 28 upon a user logging into the data collection site 16A. The login window 50 builds on the theme of collaboration between the contract manufacturers that produce the foundation of an OEM’s products. Preferably, images containing company names and/or logos or trademarks are displayed for the OEM at 51, and for the contract manufacturers at 53. In one embodiment, these images 51, 53 are links to connect directly to the specific company. In the sample screen, the distributor, whose logo 52 is displayed at the top, is the data collection site.

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended) A method of monitoring supply chain activity [of a plurality of supply chain sites], comprising:

extracting supply-related data [,] at [each] independent supply chain [site] sites within the supply chain, [supply-related data to be monitored, wherein] the data being [is] maintained in plural formats at the supply chain sites;

translating the extracted data into [to] a common format;

uploading [and collecting,] the extracted data from each supply chain site [,] to a data collection site, the data collection site collecting the extracted data [to a data collection site]; and

upon a [user] request from a user associated with a supply chain site,

formatting, at the data collection site, a portion of the collected data into one of a plurality of views, responsive to criteria selected by the user, for presentation to the user, the portion of formatted data being dependent on access rights granted to the user's supply chain site, and

publishing the formatted data view to the user's supply chain site.

11. (Amended) The method of Claim 1 wherein data stored at the supply chain sites is stored in legacy [databases] database systems.
23. (Amended) A system for monitoring supply chain activity [comprising a plurality of supply chain sites], comprising:
 - a data collection center, comprising
 - a data collector, and
 - a publisher for publishing data from the data collector upon request; and
 - a plurality of independent supply chain sites, each supply chain site comprising
 - a data storage device for maintaining [supply-chain] supply-related data,
 - a data transfer engine (DTE) [, for] which extracts the supply-related data from the data storage device and transfers [transferring] the extracted [supply-chain] data to the data collection center,
 - input means for allowing a user associated with a supply chain site to query the data collector, and
 - a display for displaying data published by the publisher in response to a query.

38. (Amended) A computer program product for monitoring a supply chain, the computer program product comprising a computer usable medium having computer readable code thereon, including program code which:

receives, at a data collection site, supply-related data extracted from at least one independent supply chain site, [wherein the] supply-related data being [is] maintained in [plural] different formats at different supply-chain sites;

stores, at the data collection [sites] site, the received data in a common format; and
upon a user request, the user being [located at] associated with a supply chain site,

formats a portion of the collected data into one of a plurality of views,
responsive to criteria selected by the user, for presentation to the user, the
portion of formatted data being dependent on access rights granted to the user,
and

publishes the formatted data view to the user.

41. (Amended) A computer system comprising:

a processor located at a data collection site;

a memory system connected to the processor; and

a computer program, in the memory, which:

receives supply-related data extracted from at least one independent supply chain site, wherein the data is maintained and extracted at plural supply chain sites in plural formats; and

upon a user request, the user being [located at] associated with a supply chain site,

formats a portion of the collected data into one of a plurality of views, responsive to criteria selected by the user, for presentation to the user, the portion of formatted data being dependent on access rights granted to the user, and

publishes the formatted data view to the user.

42. (Amended) A computer data signal embodied in a carrier wave for allowing users to monitor a supply chain, comprising:

program code for receiving, at a data collector site, supply-related data extracted from a plurality of independent supply chain sites, wherein the data is maintained at the supply chain sites in plural formats;

program code for storing the received data in a common format, at the data collection site;

program code for formatting, at the data collection site, and upon a user request, the user being [located at] associated with a supply chain site, a portion of the collected data into one of a plurality of views, responsive to criteria selected by the user, for presentation to the user, the portion of formatted data being dependent on access rights granted to the user; and

program code for publishing the formatted data view to the user.

43. (Amended) A system for monitoring supply chain activity comprising a plurality of supply chain sites, comprising:

means for extracting, at each supply chain site, supply-related data to be monitored, wherein the data is maintained in plural formats located among the supply chain sites, at least one of the supply chain sites being independent of another supply chain site;

means for translating the data to a common format;

means for uploading and collecting, from each supply chain site, the extracted data to a data collection site;

means for formatting, at the data collection site, a portion of the collected data into one of a plurality of views, responsive to criteria selected by [the] a user associated with a supply chain site, for presentation to the user, the portion of formatted data being dependent on access rights granted to the user's supply chain site, and

means for publishing the formatted data view to the user's supply chain site.